

c) displaying an assessment of the impact of said transient medical conditions identified at steps (a,ii) or (b,iii) on said person, wherein said assessment is based on said latest date at step (a,viii) or on said whole body severity at step (b,v) and any said severities provided at steps (b,vi)-(b,xii), respectively. --

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, applicant requests that this be considered a petition therefore. Please charge the required Petition fee to Deposit Account No. 03-1240.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess to our Deposit Account No. 03-1240.

REMARKS

Favorable reconsideration of this application, as amended herein, is respectfully requested. Claims 1 through 86 remain in the application. Independent claims 1, 16, 31, 69, 77 and 78 are modified pursuant to this amendment.

In the Office Action dated June 16, 2003, the Examiner rejected claims 1-8 and 10-86 under 35 U.S.C. § 103(a) as being made obvious by the teachings of De Tore et al. (4,975,840) in view of Seare et al. (6,223,164) and Hammond (5,613,072). The applicant respectfully disagrees with Examiner's analysis and points out that neither De Tore, nor Seare or Hammond, together or separately, teach the claimed invention/system,

as it is recited in the amended claims and described in the specification.

The Examiner noted in the Office Action that De Tore discloses a "plurality of profiles relating predetermined medical condition to human body parts, each said profile describing an estimated capacity of at least one said body part from the time of injury in a progressive time line into the future, due to at least one said condition" and that the Examiner interpreted disclosure at col. 23, lines 1-34 and col. 25, lines 1-68 of De Tore as describing various injuries as "a form of time of injury in a progressive time line." *See* Office Action, page 2, line 22 - page 3, line 3. The applicant respectfully disagrees with the Examiner's analysis and point out that De Tore does not describe the type of "profile" claimed in the current invention. Instead, at col. 23, lines 1-34, De Tore depicts an ECG (electrocardiogram), which shows beating of a heart over time. It is not a "profile" of the current invention, comprising information and knowledge regarding future recovery from a medical condition. First, the ECG shown in De Tore is a real time representation of someone's actual heart beat, rather than a generalized estimation of the future capacity of a body part. Second, it is a depiction of the past performance or condition; not a forward prediction. Third, there is no "time-dependent" dysfunction relation or estimation mentioned in De Tore. While it does mention complications that can arise from hypertension, it does not model the evolution of complications over time in the future, and their interaction with traumatic injury or the effected body parts.

Similarly, at col. 24, lines 1-68, De Tore depicts a hypothetical evolution of the blood pressure. Three lines are presented: one showing it becoming lower, one

staying constant and another showing it getting higher. This depiction illustrates the concept of averaging blood pressure over a one-year period. In fact, De Tore suggest that the "resulting one-year average blood pressure should be used in the table to determine the debits." *See* De Tore, col. 25 - 26, lines 18-19. It does not teach or suggest the use of a forward estimation and projection of the evolution of blood pressure (or any other body part) following a traumatic event. This is in full accord with the general aim and purpose of a "life underwriting" system described in De Tore. *See* De Tore, col. 1, lines 10 - 32. The factors that it considers are:

- The previous and current health.
- The medical history of the parents
- Participation in any hazardous pursuits (mountain climbing, motor racing, sky diving, etc)
- Participation in aviation
- Hazardous occupation
- Travel intentions

See De Tore, col. 4, lines 21-35. These risk factors are assigned certain weights and evaluated based on the standard life insurance rates. *See* De Tore, col. 14, lines 12 - 39; col. 15, lines 8-14. The purpose and result of this system is to permit the underwriter to determine whether to underwrite a particular life insurance policy. *See* De Tore, col. 1, lines 7-9. For the purposes of underwriting analysis, the applicant is presumed to be medically stable, and an injured person would not be underwritten for the life insurance in accordance with the system taught by De Tore. The medical conditions of a person

relate to the past "medical history" of the person being evaluated "on the basis of information contained in the underwriting database," which assigns risk factor to certain conditions. *See De Tore*, col. 5, line 57 - col. 6, line 2. After evaluating "medical history" factors, the life underwriting system in *De Tore* makes a recommendation as to the most likely impairments to underwrite (*i.e.*, guiding the underwriting decision) *See De Tore*, col. 11, lines 17-20.

The applicant further points out that *De Tore* teaches at col. 5, lines 19- col. 6, line 2 that its main task is determining impact of static pre-existing conditions on mortality (the risk of death). It is related to assessing avocation, drinking, smoking and impairments, which are by nature permanent, and therefore static, and do not involve any change over time. Contrary to the current invention, there is no selection or evaluation of transient medical conditions, which would take into consideration the future estimates of (1) the value of recovery, (2) complications during the recovery process, (3) likely outcome after recovery, (4) length of time that this process will take, or (5) the influence of prognostic information of this recovery process. Unlike the *De Tore* patent, the current invention is aimed not at the assessment of the risk of mortality, but the assessment of monetary value of current and future pain and suffering and loss of amenities of life and evaluation of the current and future prospects of returning to work for an injured worker.

In the Office Action, it is argued that *Seare* teaches at col. 20, lines 35-67 and col. 21, line 43 one aspect of the current invention that pertains to "relating said

profile's time dimension to the occurrence of its said medical condition." *See* Office Action, page 3, lines 7-11. The applicant respectfully disagrees with the Examiner and points out that Seare teaches a totally different use of profiles, comprising different information and aimed at different results. Seare describes a system for analyzing medical services utilization patterns. Its aim and purpose is concerned with analysis and optimization of treatments and associated costs, *i.e.*, how many doctors visits and what treatment are prescribed following a medical condition. *See* Seare col. 5, lines 38-44. It is concerned with determining whether the medical services rendered are usual and customary. Seare achieves this by providing "profiles" compiled statistically from a pattern of medical service, *i.e.*, historical collection of doctor's visits and rendered medical services. Each profile is built strictly based on "an episode of care," which consists of all medical treatments and past visits to the doctor's office (or hospital). *See* Seare col. 23, lines 9-36. Unlike the current invention, there is no suggestion or requirement of providing and maintaining information concerning the (1) dysfunction of individual body parts, (2) estimates of their progressive recovery rate over time in the future, or (3) representation of injury and estimate of future recovery as dysfunction levels over time.

Finally, Hammond patent involves a system for funding future losses by an insurance carrier on active worker's compensation insurance claims, and it does not describe any of the above-mentioned features of the current invention.

The applicant further notes with respect to claims 3, 69 and 78 that De Tore simply describes multiple body organs affected by impairment, but does not describe a body part hierarchy. De Tore teaches at col. 19, lines 18-42 that an impairment can impact a collection of body systems of organs. In contrast, the current invention defines a composite body part hierarchy. For instance, the hand is a composite body part. It comprises component body parts of the thumb, index, middle, ring and little fingers, the palmar and dorsal hands. If the thumb is injured, the current invention automatically determines how the hand as a whole is affected, and automatically models the future recovery for both the thumb and the hand, as consequence of that injury to the thumb, *i.e.*, related component. There is no teaching in De Tore, Seare or Hammond of this type of hierarchical organization of body parts and automatic modeling for composites and related components in a body part hierarchy. The claims have been amended to clarify the above-mentioned important distinction between the current invention and teachings of De Tore, Seare and Hammond.

In view of the foregoing amendments and remarks, applicant respectfully submits that the Claims 1-86 are in condition for allowance. Applicant hereby respectfully requests entry of this Amendment and an early favorable action on the merits. Attached hereto is a marked-up version, captioned "Version With Markings To Show Changes Made", showing changes made to the claims and specification by the current amendment.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail under 37 C.F.R. 1.8 in an envelope addressed to:

Assistant Commissioner for Patents, United States Patent and Trademark Office, Washington, D.C. 20231.

DATE: December 16, 2003

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Version With Markings To Show Changes Made

-- (Twice Amended) A computerized method for assessing medical conditions affecting medically impaired person, said method comprising the steps of:

- a) providing a plurality of profiles relating predetermined transient medical conditions to human body parts, each said profile describing an estimated capacity of at least one said body part from the time of injury in a progressive time line into the future, due to at least one said condition;
- b) identifying one or more said predetermined transient medical conditions that currently affect said person;
- c) selecting a said profile corresponding to each said transient medical condition;

and

- d) relating said selected profile's time dimension to the occurrence of its said transient medical condition.

16. (Twice Amended) A computerized method for assessing the impact of medical conditions and impairments affecting a person, said method comprising the steps of:

- a) providing a plurality of profiles relating predetermined transient medical conditions to human body parts, each said profile describing an estimated capacity of at least one said body part from the time of injury in a progressive time line into the future, due to at least one said predetermined transient medical condition;

- b) identifying one or more said body parts that affect performance of a job by said person;
- c) determining what capacity level of each said one or more body parts inhibits said person from performing said job;
- d) identifying one or more said predetermined transient medical conditions that currently affect said person;
- e) selecting a said profile corresponding to each said one or more transient medical conditions;
- f) relating each said selected profile's time dimension to the occurrence of its said transient medical condition;
- g) for each said selected profile applicable to a said body part determined at step (b), determining a date for said applicable selected profile upon which said estimated capacity profiled by said applicable selected profile first moves beyond said capacity level determined at step (c) for its said body part so that said transient medical condition to which said applicable selected profile corresponds does not inhibit said job; and
- h) determining the latest said date determined at step (g).

31. (Twice Amended) A computerized method for assessing the impact of medical conditions and impairments affecting a person, said method comprising the steps of:

- a) providing a model of the human body, said model including body parts that, in combination with each other, form the human body;

- b) providing, for each transient medical condition of a plurality of predetermined transient medical conditions, a severity value that describes the impact of said transient medical condition on at least one said body part from the time of injury in a progressive time line into the future;
- c) identifying one or more said predetermined transient medical conditions that currently affect said person; and
- d) combining said severity values for said transient medical conditions identified at step (c) to a combined severity value.

69. (Twice Amended) A method for assessing the impact of medical conditions and impairments affecting a person, said method comprising the steps of

- a) providing a model of the human body, said model including body parts that, in combination with each other, form the human body, wherein said human body parts are classified into a multi-level hierarchy, each said body part in each level of said hierarchy below a highest level of said hierarchy being a component body part of a composite body part in a higher level in said hierarchy;
- b) providing, for each transient medical condition of a plurality of predetermined transient medical conditions, a severity value that describes the impact of said transient medical condition on at least one said body part;
- c) identifying one or more said predetermined transient medical conditions that currently affect said person;

d) for each said body part having multiple said transient medical conditions identified at step (c), combining said severity values corresponding to said identified transient medical conditions to a total severity value for said body part based on the time at which said transient medical conditions to which said severity values correspond occurred;

e) for each said composite body part up to a composite body part corresponding to the human body as a whole, combining said severity value of each said component body part of said composite body part up to a composite body part severity value for said composite body part based on the spatial relationship among said component body parts within the human body;

f) where said person has spent time in a hospital as a patient, providing a severity value that describes the impact on said person from the time of injury in a progressive time line into the future;

g) where said person has received convalescent care, providing a severity value that describes the impact on said person of time spent by said person under convalescent care;

h) where said person is predicted to suffer a transient medical condition in the future, providing a severity value, arranged in a progressive time line into the future, that describes the impact on said person of said transient medical condition;

- i) where said person has suffered post traumatic stress syndrome, providing a severity value that describes the impact on said person of said post traumatic stress syndrome;
- j) where said person has suffered a temporary loss of ability to enjoy life, providing at least one severity value that describes the impact on said person of said loss;
- k) where said person has suffered a permanent loss of ability to enjoy life, providing at least one severity value that describes the impact on said person of said loss;

and

- 1) where said person has suffered a permanent dysfunction, providing a severity value that describes the impact on said person of said permanent dysfunction.

77. (Twice Amended) A method for modeling medical conditions and impairments affecting a person, said method comprising the steps of:

- a) where said person is subject to a workers' compensation system,
 - i) providing a plurality of profiles relating predetermined transient medical conditions to human body parts, each said profile describing an estimated capacity of at least one said body part from the time of injury in a progressive time line into the future, due to at least one said condition,
 - ii) identifying one or more said predetermined transient medical conditions that currently affect said person,
 - iii) selecting a said profile corresponding to each said transient medical condition, and

- iv) relating said selected profile's time dimension to the occurrence of its said transient medical condition;
- b) where said person is subject to a common law compensation system,
 - i) providing a model of the human body, said model including body parts that, in combination with each other, form the human body,
 - ii) providing, for each transient medical condition of a plurality of predetermined transient medical conditions, a severity value that describes the impact of said transient medical condition on at least one said body part,
 - iii) identifying one or more said predetermined transient medical conditions that affect said person, and
 - iv) combining said severity values for said transient medical conditions identified at step (b,iii) to a combined severity value; and
- c) displaying an assessment of the impact of said transient medical condition identified at steps (a,ii) or (b,iii) on said person, wherein said assessment is based on said profiles related to said transient medical conditions at step (d) or on said combined severity value at step (b,iv), respectively.

78. (Twice Amended) A method for assessing the impact of medical conditions and impairments affecting a person, said method comprising the steps of

- a) where said person is subject to a workers' compensation system,
 - i) providing a plurality of profiles relating predetermined transient medical conditions to human body parts, each said profile describing an estimated

capacity of at least one said body part, due to at least one said predetermined transient medical condition from the time of injury in a progressive time line into the future,

- ii) identifying one or more said body parts that affect performance of a job by said person,
- iii) determining what capacity level of each said one or more body parts inhibits said person from performing said job,
- iv) identifying one or more said predetermined transient medical conditions that currently affect said person,
- v) selecting a said profile corresponding to each said one or more transient medical conditions,
- vi) relating each said selected profile's time dimension to the occurrence of its said transient medical condition,
- vii) for each said selected profile applicable to a said body part determined at step (a,ii), determining a date for said applicable selected profile upon which said estimated capacity profiled by said applicable selected profile first moves beyond said capacity level determined at step (a,iii) for its said body part so that said transient medical condition to which said applicable selected profile corresponds does not inhibit said job, and
- viii) determining the latest said date determined at step (a,vii);

b) where said person is subject to a common law compensation system,

- i) providing a model of the human body, said model including body parts that, in combination with each other, form the human body, wherein said human body parts are classified into a multi-level hierarchy, each said body part in each level of said hierarchy below a highest level of said hierarchy being a component body part of a composite body part in a higher level in said hierarchy,
- ii) providing, for each transient medical condition of a plurality of predetermined transient medical conditions, a severity value that describes the impact of said transient medical condition on at least one said body part,
- iii) identifying one or more said predetermined transient medical conditions that currently affect said person,
- iv) for each said body part having multiple said transient medical conditions identified at step (b,iii), combining said severity values corresponding to said identified transient medical conditions to a total severity value for said body part based on the time at which said transient medical conditions to which said severity values correspond occurred,
- v) for each said composite body part up to a composite body part corresponding to the human body as a whole, combining said severity value of each said component body part of said composite body part up to a composite body part severity value for said composite body part based on the spatial relationship among said component body parts within the human body,

- vi) where said person has spent time in a hospital as a patient, providing a severity value that describes the impact on said person from the time of injury in a progressive time line into the future,
- vii) where said person has received convalescent care, providing a severity value that describes the impact on said person of time spent by said person under convalescent care,
- viii) where said person is predicted to suffer a transient medical condition in the future, providing a severity value that describes the impact on said person of said transient medical condition,
- ix) where said person has suffered post traumatic stress syndrome, providing a severity value that describes the impact on said person of said post traumatic stress syndrome,
- x) where said person has suffered a temporary loss of ability to enjoy life, providing at least one severity value that describes the impact on said person of said loss,
- xi) where said person has suffered a permanent loss of ability to enjoy life, providing at least one severity value that describes the impact on said person of said loss, and
- xii) where said person has suffered a permanent dysfunction, providing a severity value that describes the impact on said person of said permanent dysfunction; and

c) displaying an assessment of the impact of said transient medical conditions identified at steps (a,ii) or (b,iii) on said person, wherein said assessment is based on said latest date at step (a,viii) or on said whole body severity at step (b,v) and any said severities provided at steps (b,vi)-(b,xii), respectively. --